



Flood Recovery

2007

Ross Lake National Recreation Area, Lake Chelan National Recreation Area, North Cascades National Park

SEVERE FLOODING in early November 2006 caused an estimated \$2.14 million in damages to park facilities. This Newsletter describes the current status of flood recovery, potential impacts to park neighbors and visitors, and timeframes for completing repairs. Public comments are also invited on several flood recovery proposals that require environmental impact assessment in accordance with the National Environmental Policy Act.

Status of Backcountry Trails, Camps and Bridges

Aerial surveys indicate all major backcountry bridges survived the flood. However, the full extent of damage to the Complex's nearly 400 miles of backcountry trails will not be known until rangers conduct on-the-ground inspections after spring snowmelt. Until repairs can be made, hikers should expect fallen trees, damaged boardwalks, scoured trail surfaces, localized washouts, missing footbridges and damage to some backcountry campsites.

This damage may cause localized inconveniences, but extensive impacts to backcountry hiking are not anticipated. For up-to-date hiking and camping information, please contact the Headquarters Information Center: 360.856.5700 ext. 515, or the Wilderness Information Center: 360.873.4590 ext. 39.

To comment on flood recovery efforts, please write to:
Superintendent
North Cascades National Park
ATTN: Flood Recovery Comments
810 State Route 20
Sedro-Woolley, WA 98284



Figure 1. Cascade River Road at milepost 20.5. The North Fork of the Cascade River carved a new channel through 300 feet of the road.

Summary of flood damage and recovery efforts on the Cascade River Road

The North Fork of the Cascade River in North Cascades National Park caused extensive damage to the Cascade River Road. The road is currently closed and impassable beyond the Eldorado Creek parking area (milepost 20). The NPS intends to repair the road as quickly as possible, but due to the extensive damage and funding uncertainties, the road will likely remain closed until at least August 2007. In the interim, visitors seeking to access the Cascade Pass area must park at the Eldorado Creek parking area then proceed on foot.

Until stream crossings can be reestablished at milepost 20.5 (North Fork of Cascade River) and milepost 21.8 (Boston Creek), high flows may prevent safe passage until flows recede later in the summer season. Visitors must exercise **EXTREME CAUTION** in this area.

Milepost 20.5: The North Fork of the Cascade River carved out a new channel along 300 feet of the former roadbed, (Figure 1). Most of the river is now flowing down this new channel and no longer flowing under the bridge at milepost 20.6. An Environmental Assessment will be prepared to address this damage.

Two preliminary alternatives currently under consideration include: (A) repair the road with causeway and culvert; or (B) repair the road with a causeway and second bridge. Both alternatives may require bank stabilization to keep the river in established channels. Installation of a bridge would be more expensive but less harmful to the ecology of the river. A bridge would also be less likely to fail in future floods. Prior to designation of the Stephen Mather Wilderness in 1988, the river washed out this

(See REPAIRS page 2)

Colonial Creek Campground in Ross Lake National Recreation Area

A debris flow dumped several hundred cubic yards of rock on the south entrance road of the campground. This is a fairly routine occurrence because part of the campground lies at the foot of a “debris cone”—an unstable landform in which rock and debris shift readily during floods. NPS staff took emergency actions immediately after the flood to clear the entrance road and open blocked culverts. The remaining repairs, including construction of an “overflow channel” to reduce the risk of future flood damage, should be completed this spring and the south loops of the campground should be open by mid-May.

The north loops of the campground, which were extensively damaged by flooding in October 2003, suffered relatively minor damage: two foot log bridges on the Thunder Knob trail were washed downstream and the new channel for Colonial Creek (formed during the 2003 flood) eroded further south toward the newly constructed loop road. Engineered log jams may need to be installed to prevent further channel migration. These damages should be repaired this spring, and the north loops of the campground (closed since the October 2003 flood) should be fully open by Memorial Day weekend. The foot logs on the Thunder Knob Trail should be repaired by July 1st.

For more information, including photos of flood damage and updates on repairs, please visit:

<http://nps.gov/noca>

You may also contact Roy Zipp, Environmental Protection Specialist, at 360.856.5700, ext. 367; or Charles Beall, Public Information Officer, ext. 365.

REPAIRS: Cascade River Road closed

(Continued from page 1) section of road. An excavator was used to dredge the river channel and keep the river flowing under the bridge. Rock-filled gabions were also installed to stabilize the river bank. The Stephen Mather Wilderness boundary now lies on 50-feet on either side of the centerline of the Cascade River Road, so all repair actions, including manipulating the river channel, must comply with the Wilderness Act.

Milepost 21.8: Boston Creek overwhelmed its culvert and washed away approximately 100 feet of roadbed to a depth of at least 8 feet. Similar damage occurred during the 2003 flood. Before this problem can be fixed, the road damage at milepost 20.5 must be repaired so heavy equipment can access the site. Two preliminary repair alternatives are under consideration: (A) reinstall the former culvert; or (B) install a vented ford. The ford would be less likely to fail, but would cost substantially more than reinstalling the culvert.

Public Scoping Begins on Upper Company Creek Road

The bed of the Stehekin River at the upper end of the Company Creek Road has built up 3 to 4 feet since 2002, increasing the risk of flood damage to private property and the road itself. This portion of the Company Creek Road provides access to several parcels of private land but serves no public facilities.

In the 1995 General Management Plan for Lake Chelan National Recreation Area, the NPS made a commitment to the residents of the Stehekin Valley to maintain the Company Creek Road without major reconstruction and/or expenditure of funds. The NPS proposes to honor this longstanding commitment by installing a series of sub-surface grade control structures (14-60m long by 1m wide by 3m deep). These rock structures would reduce the potential for new channel formation in future flood events. To be effective, the structures would need

How will the NPS pay for flood repairs?

The Director of the National Park Service has redirected approximately \$18 million from other unexpended highway and construction accounts to fund primarily flood recovery efforts at Mount Rainier National Park, however, a small portion of this funding will be available for North Cascades. The other main source of funding will be from the Federal Highway Administration's Emergency Relief program for Federally Owned roads (ERFO). ERFO provides funding and design assistance to the National Park Service for repairing roads damaged by natural disasters. ERFO-funded repairs are often limited to emergency actions or “replacement in kind” as opposed to “betterments” such as improving previous culvert designs to reduce the risk of future flood damage. Given the high costs of repairing flood damages at Mount Rainier, Olympic and North Cascades National Parks, ERFO may not be able to fund betterments (e.g. replacing a culvert with a bridge).

to extend beyond the narrow road right-of-way and onto private property. The NPS is precluded by law from expending federal dollars on private property, so these structures would only be installed if easements could be secured from willing property owners. To further reduce future flood damage, the NPS may also install rip rap, additional rock barbs, engineered log jams and plant riparian vegetation along the bank of the river at the end of the road.

In accordance with the National Environmental Policy Act, an Environmental Assessment (EA) will be prepared for this proposal. Public scoping comments will be fully considered in refining the proposal and developing the EA. NPS staff are currently conducting an ongoing analysis of how the river location is changing over time in this area.

Flood Recovery in Stehekin and Lake Chelan

This was the third largest flood of record on the Stehekin River. None of the flood damage, however, should affect use and enjoyment of the Stehekin Valley this coming season. But the Stehekin River is flooding with much greater frequency and intensity than in years past (Figure 2). This new pattern of severe flooding is causing substantial damage to public and private property in the lower Stehekin Valley.

The flood collectively scoured one mile of roads in several locations. The worst damage occurred on the Stehekin Valley Road at milepost 8 (Figure 3), temporarily blocking vehicular access to residents of the Stehekin Valley Ranch and points beyond. NPS staff in consultation with the Army Corps of Engineers took emergency action to repair the road by installing approximately 100 cubic yards of rock and fill to form a single lane.

The National Park Service plans to install several additional “bank bars” (erosion control structures), plant riparian vegetation and raise the grade of the roadbed one to three feet to prevent further flood damage (described in the November 2005 Finding of No Significant Impact: Stehekin Valley Road Improvement Project). Bank barb construction should begin in early spring 2007 to minimize flood damage caused by spring snowmelt, however, the road may not be completely repaired until next fall.

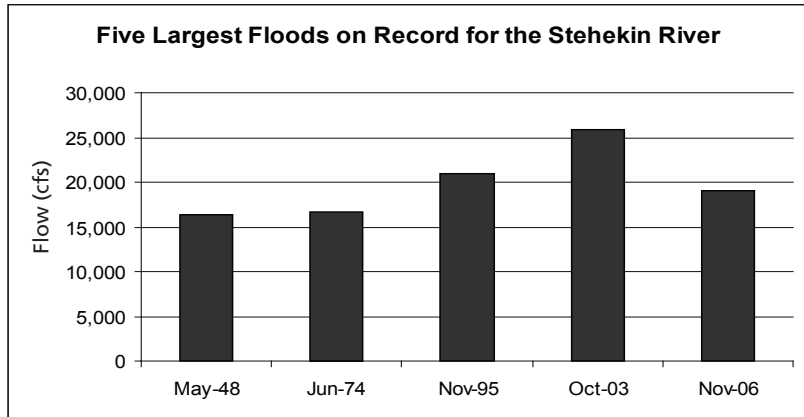


Figure 2. The three most recent Stehekin river floods all occurred in the fall following rapid warming and “rain on snow” events. The extremely low probability of these 100+ year floods in such succession, coupled with rapid glacial retreat, suggest that climate change is causing increased flooding in the North Cascades.

In light of the chronic flood damage in this area, the National Park Service may consider relocating the road away from the river. Should funding become available for this action, an Environmental Assessment would be prepared as part of the decision making process.

The flood damaged the lower and upper portions of the Company Creek Road on the lower west side of the Stehekin River Valley (Figure 4). Harlequin Campground was completely submerged and the entrance road was substantially scoured. The campsites were buried in 1 foot of sediment and vault toilets were flooded. Every effort will be made to open the campground by Memorial Day weekend. Relocation of the restrooms is currently under consideration given the regular flood damage and water quality concerns.

At the upper end of the Company Creek Road the NPS conducted emergency repairs on an existing rock hump (water diversion structure) and installed two more rock humps to prevent future flood waters from running down the road unimpeded. The road was also resurfaced using gravel salvaged from the road and additional material from the Company Creek pit.

The flood scoured the shoulder of the Upper Company Creek Road in the vicinity of mile 2.5, damaged two erosion control structures installed in the late 1990’s, and scoured away willows planted to reduce bank erosion. The rock barbs should be repaired in time for spring snowmelt, and the willows should be replanted next fall.



Figure 3. Flood damage to approximately 200 feet of the Stehekin Valley Road at milepost 8. The NPS repaired this damage with 100 cubic yards of rock.



Figure 4. The Stehekin River flowed directly down the Upper Company Road, scouring the road surface and flooding several houses.



National Park Service
U.S. Department of the Interior

North Cascades National Park Service Complex
810 State Route 20
Sedro-Woolley, WA 98284

EXPERIENCE YOUR AMERICA™